

**CLAIMS**

1. A processor-readable medium comprising processor-executable instructions configured for:

- 5 receiving a printer identification;  
generating a content type that identifies output that is compatible with a printer identified by the printer identification; and  
returning the content type.

10 2. A processor-readable medium as recited in claim 1, further comprising processor-executable instructions configured for:

- determining a printer driver that corresponds with the printer identification;  
and  
including in the content type, information identifying the printer driver.

15 3. A processor-readable medium as recited in claim 2, further comprising processor-executable instructions configured for:

- determining if the printer driver has been installed; and  
automatically installing the printer driver if the printer driver has not already  
20 been installed.

4. A processor-readable medium as recited in claim 2, wherein the determining comprises:

- accessing a lookup table; and  
25 comparing the printer identification with printer driver entries in the lookup table.

5. A processor-readable medium as recited in claim 2, further comprising processor-executable instructions configured for:

receiving a request to map a printer icon name to the content type;

mapping a printer icon name based on the content type; and

5 returning the printer icon name.

6. A processor-readable medium as recited in claim 5, wherein the printer icon name identifies a printer icon in a printer folder and the printer icon in the printer folder corresponds with the printer driver.

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7. A processor-readable medium as recited in claim 1, wherein the content type is a structured XML (Extensible Markup Language) document.

8. A processor-readable medium as recited in claim 1, wherein the content type comprises information selected from the group comprising:

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information identifying a printer driver;

information identifying capabilities of a printer driver;

information describing output that is compatible with the printer;

information describing a compatible printer page description language; and

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information identifying a compatible printer.

9. A processor-readable medium as recited in claim 1, wherein the receiving a printer identification includes receiving a request to map the printer identification to a content type.

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10. A processor-readable medium as recited in claim 1, wherein the printer identification is selected from the group comprising:

a text string specifying a printer model;  
a text string specifying the printer driver; and  
a UNC (Universal Naming Convention) path identifying a location of the printer driver.

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**11.** A processor-readable medium comprising processor-executable instructions configured for:

receiving a request to map a printer icon name to a content type;

mapping a printer icon name to the content type;

10 determining that a printer driver associated with the printer icon name is deficient;

searching for an alternate printer driver;

if an alternate printer driver is found, mapping an alternate printer icon name associated with the alternate printer driver; and

15 returning the alternate printer icon name.

**12.** A processor-readable medium as recited in claim 11, further comprising processor-executable instructions configured for returning a message indicating that the printer driver is not available if an alternate printer driver is not  
20 found.

**13.** A processor-readable medium as recited in claim 11, wherein the determining comprises:

accessing a lookup table; and

25 comparing the printer driver with entries in the lookup table.

14. A processor-readable medium comprising processor-executable instructions configured for:

receiving a request to map a printer icon name to a content type;

mapping a printer icon name to the content type;

5 determining if a printer driver associated with the printer icon name is available; and

returning the printer icon name if the printer driver is available.

15. A processor-readable medium as recited in claim 14, further  
10 comprising processor-executable instructions configured for returning an error message if the printer driver is not available.

16. A processor-readable medium as recited in claim 15, wherein the error message is selected from the group comprising:

15 a message indicating that the printer driver is unavailable; and

a message indicating that the printer driver is temporarily unavailable and that the request should be attempted later.

17. A processor-readable medium as recited in claim 14, wherein the  
20 determining comprises:

comparing a threshold number of print requests to a current number of print requests;

determining that the printer driver is available if the current number is less than the threshold number; and

25 determining that the printer driver is not available if the threshold number does not exceed the current number.

18. A processor-readable medium as recited in claim 17, wherein the comparing comprises:

accessing the threshold number from a look-up table; and

5 determining the current number according to active print requests being processed by the printer driver.

19. A processor-readable medium as recited in claim 14, further comprising processor-executable instructions configured for:

determining if the printer driver has been installed; and

10 automatically installing the printer driver if the printer driver has not already been installed.

20. A method comprising:

receiving a printer identification;

15 generating a content type that identifies output compatible with a printer identified by the printer identification; and

returning the content type.

21. A method as recited in claim 20, further comprising:

20 determining a printer driver that corresponds with the printer identification; and

including in the content type, information identifying the printer driver.

22. A method as recited in claim 21, further comprising:

25 determining if the printer driver has been installed; and

automatically installing the printer driver if the printer driver has not already been installed.

23. A method comprising:

receiving a request to map a printer icon name to a content type;

mapping a printer icon name to the content type;

5 associating a printer driver with the printer icon name;

comparing a threshold number of print requests for the printer driver to a  
current number of print requests being executed by the printer driver;

determining that the printer driver is available if the current number is less  
than the threshold number;

10 determining that the printer driver is not available if the threshold number  
does not exceed the current number; and

returning the printer icon name if the printer driver is available.

24. A method as recited in claim 23, further comprising returning an error

15 message if the printer driver is not available, the error message selected from the  
group comprising:

a message indicating that the printer driver is unavailable; and

a message indicating that the printer driver is temporarily unavailable and that  
the request should be attempted later.

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25. A method comprising:

receiving a request to map a printer icon name to a content type;

determining that a printer driver associated with the printer icon name is  
deficient; and

25 returning a message indicating that the printer driver is not available.

26. A method as recited in claim 25, further comprising:

searching for an alternate printer driver;

if an alternate printer driver is found, mapping an alternate printer icon name associated with the alternate printer driver; and

5 returning the alternate printer icon name for the alternate printer driver.

27. A server comprising:

a content transformation harness configured to receive a document and a printer identification;

10 a driver management service configured to determine a printer driver corresponding with the printer identification and to install the printer driver if the printer driver is not already installed; and

a translator engine configured to transform the document into print-ready data using the printer driver.

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28. A server as recited in claim 27, further comprising:

a content type, generated by the driver management service and containing information indicating the printer driver and capabilities of the printer driver.

20 29. A server as recited in claim 27, further comprising:

a driver look-up table containing printer driver entries and associated printer identifications, the driver look-up table used by the driver management service to determine a printer driver.

25 30. A server as recited in claim 27, further comprising:

uninstalled driver files used by the driver management service to install the printer driver if the printer driver is not already installed.

31. A server comprising:

means for receiving a printer identification;

means for generating a content type that identifies output compatible with a

5 printer identified by the printer identification; and

means for returning the content type.

32. A server as recited in claim 31, further comprising:

10 means for determining a printer driver that corresponds with the printer identification; and

means for including in the content type, information identifying the printer driver.

33. A server as recited in claim 32, further comprising:

15 means for determining if the printer driver has been installed; and

means for automatically installing the printer driver if the printer driver has not already been installed.

34. A server comprising:

20 means for receiving a request to map a printer icon name to a content type;

means for mapping a printer icon name to the content type;

means for determining if a printer driver associated with the printer icon name is available; and

means for returning the printer icon name if the printer driver is available.

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35. A server as recited in claim 34, wherein the means for determining comprises:

means for comparing a threshold number of print requests for the printer driver to a current number of print requests being processed by the printer driver;

5 means for determining that the printer driver is available if the current number is less than the threshold number; and

means for determining that the printer driver is not available if the threshold number does not exceed the current number.

10 36. A server comprising:

means for receiving a request to map a printer icon name to a content type;

means for determining that a printer driver associated with a mapped printer icon name is deficient;

means for locating an alternate printer driver;

15 means for mapping an alternate printer icon name associated with the alternate printer driver; and

means for returning the alternate printer icon name.